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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/748,430	12/26/2000	Kwan-Lae Kim	5000-1-182	4460
33942	7590	06/17/2004		
CHA & REITER, LLC 210 ROUTE 4 EAST STE 103 PARAMUS, NJ 07652			EXAMINER BELLO, AGUSTIN	
			ART UNIT 2633	PAPER NUMBER
			DATE MAILED: 06/17/2004	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/748,430

Applicant(s)

KIM ET AL.

Examiner

Agustin Bello

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tai (U.S. Patent 6,341,040).

Regarding claim 1, Tai teaches a node system for increasing the capacity of a wavelength division multiplexing (WDM) system, comprising: means for interleaving (reference numeral 1020 in Figure 10) a plurality of optical signals received therein into a predetermined number of channels; at least one demultiplexer (reference numeral 1030 in Figure 10) coupled to one of the output of said channels for demultiplexing said optical signals received via said one output into a prescribed number of channels; at least one multiplexer (reference numeral 1040 in Figure 10) for multiplexing the respective demultiplexed optical signals outputted from said prescribed channels of said demultiplexer; and, means for deinterleaving (reference numeral 1050 in Figure 10) said optical signal outputted from said multiplexer to be forwarded to a next node. Tai differs from the claimed invention in that Tai fails to specifically teach that coupled to the interleaving means, is an output terminal without forward connection, to which output of at least an additional channel for an additional, interleaved optical signal is to be coupled, for future connection of the terminal to an additional demultiplexer in the even the system is expanded so as to provide said forward connection. However, one skilled in the art would clearly have

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recognized that it would have been possible to include an additional output terminal in the device of Tai for such a situation. Furthermore, Tai suggests that the system could include multiples of the components shown (column 6 lines 56-64), thereby suggesting the possibility of additional output terminals. Moreover, it would have been obvious to one having ordinary skill in the art at the time the invention was made to allow for expandability of the system by providing additional output terminals from the interleaving means, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Regarding claim 2, Tai teaches a node system for increasing the capacity of a wavelength division multiplexing (WDM) system, comprising: means for interleaving a plurality of optical signals received therein into a predetermined number of channels (reference numeral 1020 in Figure 10); a plurality of demultiplexers (reference numeral 1030, 1035 in Figure 10) coupled to the respective output of said predetermined channels for demultiplexing the output optical signal from said respective channel into a prescribed number of channels; a plurality of multiplexers (reference numeral 1040, 1045 in Figure 10) for multiplexing the respective demultiplexed optical signals from said plurality of demultiplexers; and, means for deinterleaving said optical signals outputted from the respective output of said plurality of multiplexers to be forwarded to a next node (reference numeral 1050 in Figure 10). Tai differs from the claimed invention in that Tai fails to specifically teach that coupled to the interleaving means, is an output terminal without forward connection, to which output of at least an additional channel for an additional, interleaved optical signal is to be coupled, for future connection of the terminal to an additional demultiplexer in the even the system is expanded so as to provide said forward connection.

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However, one skilled in the art would clearly have recognized that it would have been possible to include an additional output terminal in the device of Tai for such a situation. Furthermore, Tai suggests that the system could include multiples of the components shown (column 6 lines 56-64), thereby suggesting the possibility of additional output terminals. Moreover, it would have been obvious to one having ordinary skill in the art at the time the invention was made to allow for expandability of the system by providing additional output terminals from the interleaving means, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Regarding claim 3, Tai teaches a method for increasing the capacity of a wavelength division multiplexing (WDM) system of the type having a pair of interleaver and deinterleaver and at least one pair of multiplexer and demultiplexer disposed between said interleaver and said deinterleaver, the method comprising the steps of upon receiving a plurality of optical signals from different sources by said interleaver, interleaving said received optical signals into a predetermined number of channels; demultiplexing, by said demultiplexer, said interleaved optical signals received from the respective said predetermined channel into a prescribed number of channels; multiplexing, by said multiplexer, said demultiplexed optical signals received from the respective said prescribed channel of said demultiplexer; and, deinterleaving said multiplexed optical signals into one transmission channel to be forwarded to a next node. (as seen in Figures and discussed above). Tai differs from the claimed invention in that Tai fails to specifically teach that coupled to the interleaving means, is an output terminal without forward connection, to which output of at least an additional channel for an additional, interleaved optical signal is to be coupled, for future connection of the terminal to an additional demultiplexer in the even the

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system is expanded so as to provide said forward connection. However, one skilled in the art would clearly have recognized that it would have been possible to include an additional output terminal in the device of Tai for such a situation. Furthermore, Tai suggests that the system could include multiples of the components shown (column 6 lines 56-64), thereby suggesting the possibility of additional output terminals. Moreover, it would have been obvious to one having ordinary skill in the art at the time the invention was made to allow for expandability of the system by providing additional output terminals from the interleaving means, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Regarding claims 4-11, Tai discloses the claimed invention except for additional forward and backward terminals. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include additional forward and backward terminals for future expansion, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Response to Arguments

3. Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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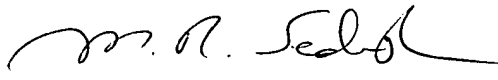
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Agustin Bello whose telephone number is (703)308-1393. The examiner can normally be reached on M-F 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (703)305-4729. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

AB


M. R. SEDIGHIAN
Primary Examiner
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